

AMENDMENTS TO THE SPECIFICATION:

Please replace the title with the following amended title:

"PARTIALLY ~~QUATERNIZED~~ QUATERNISED AMINO-FUNCTIONAL
ORGANOPOLYSILOXANES AND THEIR USE IN AQUEOUS SYSTEMS"

Page 1, after the title, please insert the following:

CROSS REFERENCE TO RELATED APPLICATIONS

This application claims priorities under 35 U.S.C. §119 to German Application No. 102 53 152.8 filed November 14, 2002, and under 35 U.S.C. §371 to PCT Application No. PCT/EP03/012703 filed as an International Application on November 13, 2003 designating the U.S., the entire contents of which are hereby incorporated by reference in their entireties.

BACKGROUND

Page 1, lines 5-9, please amend as follows:

~~This invention concerns~~ Partially quaternized amino-functional organopolysiloxanes and use thereof in aqueous system on textile substrates are disclosed.

Page 7 , before line 29, please insert:

SUMMARY

Page 7, lines 29-37, please amend as follows:

~~The present invention then has for its object to provide a~~ A preparation is disclosed for treating textile substrates from aqueous media which on the one hand possesses the advantages of quaternary amino-functional organopolysiloxanes, such as

hydrophilicity, stability at high pH values and yellowing resistance, while on the other providing the good softness effects of organopolysiloxanes modified laterally with non-alkylated amino-functional groups.

Page 7, before line 39, please insert:

DETAILED DESCRIPTION

Page 7, line 39 through page 8, line 18, please amend line 39 – through line 18 on page 8, as follows:

It has been determined that, unexpectedly, ~~this object is achieved according to the invention~~ features described herein can be achieved by the use of partially quaternized amino-functional organopolysiloxanes. Positioning of the quaternary ammonium groups on the polysiloxanes backbone is terminally in the α,ω position and that of the amino-functional groups is laterally. Good stability under application conditions in a wide pH value range (especially between pH 7 and 12) and also high yellowing resistance are obtained. On the other hand, the preparations according to the invention provide excellent softness. It has been determined that, surprisingly, the resulting softness is even distinctly superior to that of polysiloxanes bearing exclusively the terminal quaternary ammonium groups. Furthermore, textiles finished with the preparations of the invention, especially towels, underwear and sportswear, are notable for high absorbency.

Page 8, lines 19-31, please amend as follows:

When the exemplary preparations according to the invention are applied in the form

of microemulsions, internal softness is preferentially obtained on cellulosic substrates since, owing to the low emulsion particle size of below 50 nm, the partially quaternized amino-functional polysiloxanes compounds are able to penetrate deeply into the yarn and fibre interior. When preparations are used in the form of macroemulsions having particle sizes above 50 nm, deposition is can be preferentially achieved in the outer fibre and thread layers due to filtration effects. This leads to a different hand character, featuring greater surficial smoothness and more fullness.

Page 9, lines 33-35, please amend as follows:

~~The present invention firstly provides~~ Exemplary preparations are characterized by a content, based on the overall composition, of

Page 11, lines 13-22, please amend as follows:

All the weight data for the preparations of embodiments of the present invention described herein are based on the overall composition of the preparation ~~according to the present invention~~. Preferred ranges are a range of 10 - 40 per cent by weight for component (1) and a range of 10 - 20 per cent by weight for component (2). When component (3) is added, its concentration is preferably in the range of 1 - 10 and especially of 3 - 7 per cent by weight. The preferred range for component (4) is 70-90 but especially between 60 - 90 per cent by weight.

Page 12, lines 6-21, please amend as follows:

Processes for analogous preparation of the terminally epoxy-functional organopolysiloxanes used as a starting compound are described for example in DE 3705121-A1, those for preparing the amino-functional intermediates obtained therefrom for example in WO 02/10256-A1 and those for preparing the quaternary intermediates obtained therefrom in turn for example in DE 19652524-A1. The preparation of the known silane hydrolysates used is described for example by W. Noll in "Chemie und Technologie der Silicone", 2nd edition 1968, page 168 et seq., and by M.A. Brook in "Silicon in Organic, Organometallic, and Polymer Chemistry", 2000, page 258 et seq.; aminoethylaminopropylsilane hydrolysates are commercially available. Known equilibration catalysts include for example boron trifluoride, trifluoromethanesulphonic acid and sulphuric acid. The subject matter of all of the documents mentioned in this application is hereby incorporated by reference in its entirety.

Page 13, lines 22-27, please amend as follows:

To bring the partially quaternized amino-functional organopolysiloxanes of Claim 1 into a form which can be applied from an aqueous medium, macro- or micro-emulsions can be produced therefrom by high shear stirring of the components (1) to (4) at temperatures between 20 and 70°C.

Page 13, line 29 through page 14, line 4, please amend as follows:

~~The invention further provides~~ Exemplary embodiments provide for the use of the preparations according to Claim 1 in the finishing of textile substrates in aqueous baths and application liquors, if appropriate together with further preparation

additives. Fabrics woven and knitted from natural fibres, such as cotton or wool for example, but also from synthetic fibres, such as viscose, polyester, polyamide or polyacrylonitrile for example, can be treated with the amino-functional polysiloxanes of the invention. The preparation additives which can be used in addition, if appropriate, can be for example chemicals for an wrinklefree finish, chemicals to improve the sewability of the textile substrate or other products typically used in textile application liquors.

Page 14, lines 6-11, please amend as follows:

The concentration of the exemplary preparations according to the invention in the application liquors is so chosen that the treated substrates contain between 0.3 and 0.6 per cent by weight of the partially quaternized amino-functional organopolysiloxanes of Claim 1, based on the weight of the substrate.

Page 14, lines 26-30, please amend as follows:

Example 1 (not inventive):

~~The preparation consists of an aqueous microemulsion containing 20 per cent by weight of an organopolysiloxane having laterally positioned amino groups of the formula~~

Example 1 (not inventive):

The preparation consists of an aqueous microemulsion containing 20 per cent by weight of an organopolysiloxane having laterally positioned amino groups of the formula

Page 15, lines 7-11, please amend as follows:

Example 2 (not inventive):

~~The preparation consists of an aqueous microemulsion containing 20 per cent by weight of an organopolysiloxane having terminally positioned and quaternized amino groups of the formula~~

Example 2 (not inventive):

The preparation consists of an aqueous microemulsion containing 20 per cent by weight of an organopolysiloxane having terminally positioned and quaternized amino groups of the formula

Page 15, line 28 through Page 16, line 3, please amend as follows:

Example 3 (inventive):

~~The preparation consists of an aqueous microemulsion containing 20 per cent by weight of an organopolysiloxane having laterally positioned amino groups and also terminally positioned and quaternized amino groups of the formula (I)~~

Example 3 (inventive):

The preparation includes (e.g., consists of) an aqueous microemulsion containing 20 per cent by weight of an organopolysiloxane having laterally positioned amino groups and also terminally positioned and quaternized amino groups of the formula (I)

Page 17, lines 9-14, please amend as follows:

Example 4 (inventive):

~~The preparation consists of an aqueous microemulsion containing 20 per cent by~~

~~weight of an organopolysiloxane having laterally positioned amino groups and also terminally positioned and quaternized amino groups of the formula (II)~~

Example 4 (inventive):

The preparation includes (e.g., consists of) an aqueous microemulsion containing 20 per cent by weight of an organopolysiloxane having laterally positioned amino groups and also terminally positioned and quaternized amino groups of the formula (II)

Page 18, lines 9-14, please amend as follows:

~~Example 5 (inventive):~~

~~The preparation consists of an aqueous microemulsion containing 20 per cent by weight of an organopolysiloxane having laterally positioned amino groups and also terminally positioned and quaternized amino groups of the formula (III)~~

Example 5 (inventive):

The preparation includes (e.g., consists of) an aqueous microemulsion containing 20 per cent by weight of an organopolysiloxane having laterally positioned amino groups and also terminally positioned and quaternized amino groups of the formula (III)

Page 22, after the table, please insert the following:

It will be appreciated by those skilled in the art that the present invention can be embodied in other specific forms without departing from the spirit or essential characteristics thereof. The presently disclosed embodiments are therefore considered in all respects to be illustrative and not restricted. The scope of the invention is indicated by the appended claims rather than the foregoing description

and all changes that come within the meaning and range and equivalence thereof
are intended to be embraced therein.